

REMARKS

These remarks are in response to the Office Action mailed April 4, 2005.

Objections to the Drawings and the Specification

The drawings stand objected to because they do not include reference sign 58, which is found in the specification. This error has been corrected through an amendment to the specification.

The specification stands objected to because the description does not mention reference signs 21 and 34 of Fig. 1. Applicant respectfully requests withdrawal of this objection as reference sign 21 and 34 are both mentioned at least in paragraph 32 of the description.

Antecedent Basis Rejection

Claims 67 and 68 stand rejected as reciting the limitation "the 36 alphanumeric keys" without sufficient antecedent basis. This rejection has been addressed by an amendment to each of these claims.

Claim 15

The invention, as now presented in amended claim 15, relates to a video editing system that includes a random-access computer-readable medium for storing video information in data files, a display, and a standard alphanumeric keyboard. The system also includes computing apparatus that is operative to display information from the data files in a source video window and to display results of editing operations in an edited window. The computing apparatus can select between these windows in response to a signal from a key on the alphanumeric keyboard. Three adjacent keys in the alphanumeric keyboard control shuttling of playback of the video information in the selected window. A first of the keys is for forward shuttling, a second is for pausing, and a third is for reverse shuttling.

The second key is between the first and third keys. A first actuation of the first key in a paused condition causes a change in forward shuttle speed from the paused condition to a first forward shuttle speed, and a second actuation of the first key after the first actuation of the first key causes a change in forward shuttle speed from the first forward shuttle speed to a second forward shuttle speed that is faster than the first forward shuttle speed. Conversely, a first actuation of the

third key in the paused condition causes a change in reverse shuttle speed from the paused condition to a first reverse shuttle speed, and a second actuation of the third key after the first actuation of the third key causes a change in reverse shuttle speed from the first reverse shuttle speed to a second reverse shuttle speed that is faster than the first reverse shuttle speed. After any of these actuations, a first actuation of the second key causes the video material to be paused.

This aspect of the invention can allow a user to efficiently and intuitively shuttle backwards and forwards through material at different speeds to find an edit point using only a few keystrokes of three fingers of one hand. For example, a user could begin shuttling through a large video file by pressing the forward shuttle key three times to quickly shuttle toward a desired edit point at triple speed. If the user then passes the edit point, he or she can begin reverse shuttling in a single keystroke to achieve a single-speed reverse shuttling and can then press the central pause key to pause at the edit point with another single keystroke. This shuttling interface therefore allows a user to reach an edit point efficiently and intuitively while leaving one hand free to perform other operations.

Claim 15 stands rejected as obvious over Anderson in view of a Mitsubishi owner manual. Anderson discloses a keyboard for a computer editing system that he characterizes as representative of top-of-the-line video edition systems. It includes a series of the following six keys: REW, FWD, PLAY, STOP, CUE, SLOW (p. 69, col. 1).

The Mitsubishi owner manual describes the operation of a hand-held remote control for a VCR. Because it includes channel buttons and does not include any editing functions, it appears that this remote control is intended for use with a consumer-grade VCR of the type that can be used to record and play back off-the-air television programs. It includes a SLOW/FR ADV button (22) surrounded by a "-" (23) button and a "+" button (24). Pressing the SLOW/FR ADV button while in playback mode causes the VCR to begin slow-motion playback, and pressing it in pause mode causes the VCR to advance one frame at a time. Pressing the "+" button in slow-motion mode increases slow-motion speed, and pressing the "-" button in slow-motion mode decreases slow motion speed.

The Office Action states that Anderson discloses three adjacent keys with a first being for forward shuttling, a second being for pausing, and a third being for reverse shuttling, but acknowledges that Anderson does not explicitly disclose the claimed actuation features. The Office

Action goes on to argue, however, that the "-", SLOW/FR ADV, and "+" keys shown in the Mitsubishi owner manual teach the actuation features.

But neither Anderson nor Mitsubishi disclose or suggest the invention as now claimed in amended claim 15, because neither of them teaches a pause key located between forward and reverse shuttling keys with multiple actuations of the shuttling keys operating to change shuttling speeds. Anderson instead shows a keyboard with REW and FWD keys, but fails to disclose a pause key between them. And successive actuations of these keys are not disclosed as changing shuttle speeds. Anderson therefore fails to disclose or suggest the invention as now claimed in amended claim 15.

The Mitsubishi owner's manual shows "-", SLOW/FR ADV, and "+" keys, and states that multiple actuations of these keys in slow motion mode increase or decrease the slow motion playback speed. But the "-" key does not reverse slow motion playback speed, it only slows it. And there is no disclosure to indicate that the SLOW/FR ADV button will ever cause the VCR to transition from shuttling to being paused at an edit point or any other point. The Mitsubishi owner's manual therefore also fails to disclose or suggest the invention as now claimed in amended claim 15.

And because neither document shows a pause key located between forward and reverse shuttling keys with multiple actuations of the shuttling keys operating to change shuttling speeds, it is not clear how one would combine the two references in such a way as to obtain the invention. Since Mitsubishi's group of three keys does not operate as claimed, simply inserting this group into the Anderson keyboard would not operate as claimed either. One would therefore have to instead selectively mix and match various key functions from the two references to even come close to the claimed invention. But there is no teaching in any of the prior art of record that would motivate one of ordinary skill to consider such a complex undertaking.

In fact, one of ordinary skill in the art would not have been motivated to modify the Anderson's keyboard to use the Mitsubishi keys at all. Anderson's keyboard is for a professional editing system with advanced editing functions, while Mitsubishi's remote control is for a consumer-grade VCR for recording television shows. There is no reason apparent from any of the prior art of record that one of ordinary skill in the art would believe that an improvement would be obtained if he were to modify Anderson's professional editing system to include Mitsubishi's keys. And Anderson's characterizations of his keyboard as representative of top-of-the line editing

systems would further dissuade one of ordinary skill from seeking alternative approaches to shuttle key arrangements. For these reasons, one of ordinary skill in the art would not have been motivated to combine the Anderson and Mitsubishi teachings.

Claims 21, 27, 33, 39, 45, 63, and 65 also distinguish over the prior art of record for at least reasons similar to those advanced in support of claim 15.

Claim 51

Claim 51 was amended in the amendment originally mailed September 7, 2004, but it appears from the Office Action that this amendment was not considered. Claim 51 has now been amended to include both the earlier-submitted amendments and new amendments.

As it is now presented in amended claim 51, the invention relates to a video editing system that includes a random-access computer-readable medium for storing video information in data files, a display, and a standard alphanumeric keyboard. The system also includes computing apparatus that is operative to perform editing operations on the video information, and to display video information from the one or more data files on the display. Four adjacent keys from the standard alphanumeric keyboard control trimming of a selected transition in the video information.

A single actuation of a first of the four keys causes a plurality of frames to be trimmed in a reverse direction, and a single actuation of a second of the four keys causes one frame to be trimmed in a reverse direction. Conversely, a single actuation of a third of the four keys causes one frame to be trimmed in a forward direction, and a single actuation of a fourth of the four keys causes a plurality of frames to be trimmed in a forward direction.

This aspect of the invention can allow a user to efficiently and intuitively move backwards and forwards through material by different amounts to trim a scene in a video composition using only a few keystrokes of the fingers of one hand. For example, a user could begin by coarsely moving a transition several frames at a time using the multi-frame keys until an approximate new transition point is found. The user could then tweak the exact location of the transition using the single-frame keys. If the user passes the optimal transition point, he or she can then begin single-frame or multi-frame reverse trimming operations in a single keystroke.

In a more specific example of the editing of a dance performance shot with multiple cameras, the user could use single actuations of the multi-frame keys to select a different one of the

dancer's steps for the transition point based on the visual content of the video material. This selected step might be the last step before a boom becomes visible, for example, or it might just be a slightly earlier step that the user is experimenting with. Once the step has been coarsely selected, the user can adjust the transition point with the single-frame keys to achieve the best visual flow from one camera's vantage point to another's. The best visual flow might be achieved by setting the transition point when one of the dancer's feet is at its very highest point, for example, or when his or her arms are fully outstretched. The four-key interface of this aspect of the invention allows this entire trimming process to be performed quickly and intuitively while leaving one hand free to perform other operations.

Claim 51 stands rejected as anticipated by Anderson. As presented above, Anderson discloses a keyboard for a computer editing system that is said to be representative of features available in top-of-the line computer editing systems. It includes a TRIM IN key next to a TRIM OUT key, which are said to allow the user to make "plus or minus" adjustments ("trims") to the edit point numbers (p. 69, col. 2). Trims are said to be entered in frame numbers, or in hours-minutes-seconds-frames, depending on the edit system.

Anderson presents as an example a multi-take dance sequence in which a director decides to cut to a particular take for four seconds at a point 30 seconds into a song (see p. 70, col. 1, ¶ 1). To do this, the editor would begin by entering the record start point (01204000) into both the record and playback VTRs. The editor would then activate the "trim in" key for the playback VTR and enter a calculated offset (07301520). This offset is obtained by subtracting one code number from another (page. 69, col. 2, ¶ 3).

Anderson's trim keys are significantly different from those of the invention as it is presented in claim 51. In the invention, the user can use the trim keys to intuitively move through material in the forward and reverse directions at different speeds with one hand, while looking at the screen. In Anderson's method the trim keys are for use with numerical values that have been obtained by mathematical subtraction. This calculation-based approach clearly fails to anticipate the intuitive single-key/multi-key approach as now claimed in amended claim 51. Nor does any other set of keys in the Anderson reference perform the key functions as now claimed in claim 51.

Anderson also does not suggest the trimming arrangement now presented in amended claim 51. There is nothing in the Anderson reference that would point to the invention's the intuitive single-key/multi-key approach. And Anderson's characterizations of his keyboard as

representative of top-of-the line editing systems would further dissuade one of ordinary skill from seeking alternative approaches to trimming. Anderson therefore does not suggest the invention as now presented in amended claim 51.

Claim 67

The invention, as now presented in amended claim 67, relates to a video editing system that includes a random-access computer-readable medium for storing video information in data files, a display, and a standard alphanumeric keyboard. The system also includes computing apparatus operative to display video information from the one or more data files on the display. The system is also 1) operative in response to signals from a first set of keys on a left hand side of the 36 alphanumeric keys in the standard alphanumeric keyboard to control marking operations on the video information, 2) operative in response to signals from a second set of keys on a right hand side of the 36 alphanumeric keys in the standard alphanumeric keyboard to control shuttling of playback of the video information, and 3) operative in response to signals from a third set of keys on the right hand side of the 36 alphanumeric keys in the standard alphanumeric keyboard to control trimming of the marked video information. The second set of keys includes an "L" key in a QWERTY keyboard layout, a "K" key in a QWERTY keyboard layout and a "J" key in a QWERTY keyboard layout.

Claim 67 stands rejected as anticipated by Anderson. As presented above, Anderson discloses a keyboard for a computer editing system that is said to be representative of features available in top-of-the line computer editing systems. As shown in Fig. 3.6, it includes a TRIM IN key next to a TRIM OUT key that are above, and to the right of MARK IN and MARK OUT keys. It also includes a series of the following six keys: REW, FWD, PLAY, STOP, CUE, SLOW (p. 69, col. 1).

But this configuration is very different from the claimed configuration. It does not include shuttling keys that include an "L" key in a QWERTY keyboard layout, a "K" key in a QWERTY keyboard layout and a "J" key in a QWERTY keyboard layout as now claimed in amended claim 67. The anticipation rejection of this claim should therefore be withdrawn.

Claim 68 also distinguishes over the prior art of record for at least reasons similar to those advanced in support of claim 67.

Claim 48

The invention, as presented in amended claim 48 relates to an alphanumeric keyboard for use with a computerized video editing system. This keyboard includes 36 alphanumeric keys and additional keys with typographical symbols disposed in a standard keyboard layout. A set of three adjacent keys includes a first key on the user's left bearing a label indicative of a reverse shuttling function, a second, central key bearing a label indicative of a pause function, and a third key on the user's right bearing a label indicative of a forward shuttling function. The first of the three keys is an "L" key in a QWERTY keyboard layout, wherein the second of the three keys is a "K" key in a QWERTY keyboard layout and the third of the three keys is a "J" key in a QWERTY keyboard layout.

This type of keyboard presents an intuitive and easy-to-learn user interface for a computer-based editing system. Providing three adjacent keys that include forward and reverse shuttling functions placed around a pause function allows the user to shuttle through large quantities of material and locate an edit point with three fingers of one hand that does not leave the keyboard. This allows the user to then quickly perform other keyboard-based editing functions, instead of having to move back and forth between mouse and keyboard.

Claim 48 stands rejected as obvious over Anderson in view of Millis et al. As presented above, Anderson discloses a keyboard for a computer editing system that is said to be representative of features available in top-of-the line computer editing systems. It includes a series of the following six keys: REW, FWD, PLAY, STOP, CUE, SLOW (p. 69, col. 1).

Millis et al. disclose a controller 36 that includes an interactive control icon 40 and an interactive slider bar 38 (see Fig. 2). The slider bar has a bar-shaped control dial, standard playback direction/velocity indicators, and a number of control buttons corresponding to the position of the playback direction/velocity indicators. These include standard playback indicators and control buttons corresponding to fast-reverse 42, reverse play, 44, step-reverse 46, stop 48, step-forward 50, forward play 52, and fast-forward 54 (col. 4, lines 31-40).

But Anderson and Millis do not disclose the invention as claimed in claim 48, whether taken alone or in combination. Neither Anderson or Millis discloses or suggests three adjacent J, K, and L alphanumeric keyboard keys that include forward and reverse shuttling functions placed around a pause function. And even assuming that one of ordinary skill in the art would be

motivated to combine the disclosures of Millis & Anderson, this combination of disclosures does not come any closer to suggesting the invention as claimed in claim 48.

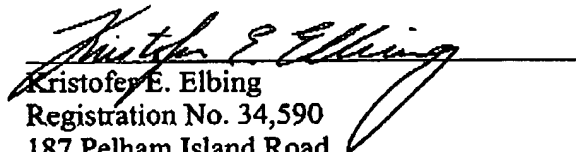
Specifically, Anderson provides a six-key arrangement that does not include forward and reverse shuttling functions placed around an adjacent to a pause function. And Millis provides a mouse-based interface that includes seven control positions, but does not disclose where keyboard equivalents to these functions might be. Were one of ordinary skill to assign keyboard equivalents for the Millis system, therefore, the combination of references only teaches Anderson's six-key interface or Millis's seven-position interface. And neither of these includes three adjacent alphanumeric keyboard keys with forward and reverse shuttling functions placed around a pause function.

Nor is there any teaching in either Anderson or Millis to modify their disclosures in such as way as to suggest the invention. And Anderson's characterizations of his keyboard as representative of top-of-the line editing systems would further dissuade one of ordinary skill from seeking alternative approaches to shuttle key arrangements. Millis and Anderson therefore do not disclose or suggest the invention as claimed in claim 48.

The remaining claims are dependent, and should be allowable for at least the reason that they depend on an allowable claim. This application should therefore now be in condition for allowance and such action is respectfully requested. The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0750.

Respectfully submitted,

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Dated


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